

CHEMISTRY QUESTIONS FOR CLASS 10

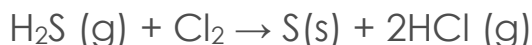
(Based on: Chemical reactions and Chemical equations)

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DATE:- 03/06/2020

Exemplar Questions and Solutions

16) Identify the compound oxidized in the following reaction.



Ans) H_2S is oxidized to S by losing hydrogen atom. Thus, H_2S is the reducing agent. Cl_2 gets reduced to HCl by gaining hydrogen atom. Thus, Cl_2 is an oxidizing agent.

17) Give an example of photochemical reaction:

Ans) The most common example of a photochemical reaction is photosynthesis-plants use solar energy to convert carbon dioxide and water into glucose and oxygen.



18) Hydrogen being a highly inflammable gas and oxygen being a supporter of combustion, yet water which is a compound made up of hydrogen and oxygen is used to extinguish fire. Why?

Ans) During a chemical combination reaction, the product formed have entirely new properties and the individual properties of the reactants is lost.

19) Why do we apply paint on iron articles?

Ans) Iron articles are painted to prevent them from rusting. Once an iron article is painted, the contact of iron articles from moisture and air is cut off thus preventing rusting.

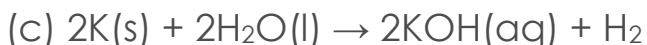
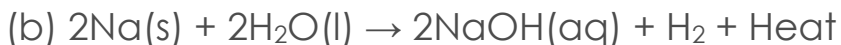
20) Write the balanced chemical equations for the following reactions:

(a) Sodium carbonate solution on reaction with hydrochloric acid in equimolar concentration gives sodium chloride and sodium hydrogen carbonate.

(b) When cold water is added to sodium, violent exothermic reaction takes place and sodium hydroxide and hydrogen are produced.

(c) Potassium metal reacts with water to give potassium hydroxide and hydrogen is released.

Ans) (a) $\text{Na}_2\text{CO}_3(\text{aq}) + \text{HCl}(\text{aq}) \rightarrow \text{NaCl}(\text{aq}) + \text{NaHCO}_3(\text{aq})$



21) Name a few chemical reactions taking place in our everyday life.

Ans) Photosynthesis, respiration, digestion, corrosion, combustion of fuel, formation of curd, rotting of food, etc.

22) Why non-metals in general do not displace hydrogen from dilute acids?

Ans) Non-metals generally do not displace hydrogen from dilute acids because non-metals are less reactive than hydrogen as all the non-metals other than Carbon(C) are placed below Hydrogen in the Activity Series. Moreover, non-metals do not have a tendency to lose electrons because of which they do not displace hydrogen from acids.

23) What do you observe when a matchstick flame is brought near a test tube containing hydrogen gas?

Ans) When a matchstick flame is brought near a tube containing hydrogen gas, it burns with a pop sound.

24) Which type of chemical reaction does the general chemical reaction $A+B \rightarrow C$ represent?

Ans) $A+B \rightarrow C$ represents chemical combination reaction.

25) Why does lime water turn milky when CO_2 is passed through it?

Ans) Lime water is a solution of calcium hydroxide $\{Ca(OH)_2\}$. So, when CO_2 is passed through lime water, a white precipitate of calcium carbonate ($CaCO_3$) which is insoluble in water.

26) What is the method opted for balancing a chemical equation?

Ans) Hit and trial method is used for balancing chemical equations. In this method, we make trials to balance the equation by using the smallest whole number coefficient.

27) Which colour fumes are evolved when lead nitrate is heated? Write an equation and name the gas that is evolved:

Ans) Brown colour fumes of nitrogen dioxide(NO_2) gas is evolved when lead nitrate is heated.